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(54) Title: COLLABORATIVE WEB-BASED VIDEO SYSTEM FOR PROMOTING SERVICE PROVIDER EFFICIENCY

(57) **Abstract:** The present invention includes a method for a service provider to improve service to a customer. The method includes providing a plurality of service specialists. The method also includes providing a guide that communicates interactively with the customer and providing a network wherein the customer and one or more of the plurality of specialists interact. The method additionally includes guiding the customer to one or more of the specialists through the network based upon communication between the customer and the guide.

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**COLLABORATIVE WEB-BASED VIDEO SYSTEM FOR
PROMOTING SERVICE PROVIDER EFFICIENCY**

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Background of the Invention

The present invention relates to a collaborative, electronically interactive system for promoting service provider efficiency and customer satisfaction in a 10 service-based enterprise.

Service-based industries, such as banking, the insurance industry, financial services, the health care industry, in-store and catalogue retailing, and consulting services have been required to constantly balance a need to provide specific, customized services when clients or customers require them while 15 maximizing the efficiency of service providers. Success in achieving this balance has frequently required businesses to develop new sources of revenue in order to offset losses incurred by service providers. The balance has also required businesses to deepen personal relationships that the service providers of the businesses have had with valued customers in order to retain a steady source 20 of income from these customers. In some instances, achieving and maintaining the balance has required service providers to become more efficient and customers to become more self-sufficient.

The business concept of the health maintenance organization has operated by this self sufficiency principle. Patients have been expected to 25 monitor their health status and have been encouraged to adopt a healthy lifestyle. Doctors have been encouraged to rely upon less expensive service providers such as nurses and technicians for routine diagnostic procedures. Despite assuming greater responsibility for their health, however, patients have still consulted with doctors for disease treatment and prevention.

30 The business concept of brokerage houses and stock analysts has been, among some consumers, achieving a balance wherein consumers have become sufficiently autonomous so that they do not require assistance of a broker to place trading orders. Instead, they have placed orders themselves through a number of on-line brokerage services. As a consequence, many consumers have

found that they do not need a broker at all. Consumers still require information concerning stocks and bonds, however. The information has been obtained by reading publications, on-line and off-line, directed to stock and bond analysis.

For a number of service-based industries, it has been found that

- 5 automation of the functions performed by a service provider has had only limited success. This is because customers desire to be "face- to-face" with a service provider having a particular expertise. Customers have not desired to interact by telephone with a disembodied voice.

Furthermore, service-based industries have had to be mindful that the
10 products they provide have desirability to consumers because of the individuals within the industry providing the service and the relationships that these individuals develop with their customers. Thus, a service-based industry that has offered an on-line "vanilla wrapper" service, has, in some instances, found itself losing existing customers and any future customer loyalty because the service-
15 based business itself has destroyed any value imparted by virtue of the specific individuals providing service.

Summary of the Invention

One embodiment of the present invention includes a method for a service provider to provide improved service to a customer. The method includes
20 providing a plurality of service specialists and providing a guide that communicates interactively with the customer. The method also includes providing a network wherein the customer and one or more of the plurality of specialists interact. The method additionally includes guiding the customer to one or more of the specialists through the network based upon communication
25 between the customer and the guide.

Another embodiment of the present invention includes a method for rapidly providing customer access to a service specialist. The method includes providing a plurality of service specialists and providing a network wherein the customer and one or more of the plurality of the specialists interact. The method
30 also includes communicating a consumer's specific specialist requirement to a guide and the guide's identifying the specialist which can best address the need. The method additionally includes guiding the customer to the specialist over the network through the guide.

- Another embodiment of the present invention includes a system for rapidly providing customer access to a service specialist. The system includes a plurality of service specialists and a network wherein the customer and one or more of the service specialists interact. The system also includes a guide which
- 5 identifies optimal service specialists and guides the customer through the network to the optimal service specialist or specialists.

One other embodiment of the present invention includes a method for monitoring performance of a service specialist. The method includes providing an electronic network and tying activities of and access to the service specialist

10 to the electronic network. Information about the service specialist is added to a database which is accessible by a guide. Availability of the service specialist is monitored by accessing information in the database.

Detailed Description

The present invention includes a method for enabling a service provider

15 to improve service to a customer. The method includes providing a plurality of service specialists and providing a guide that communicates interactively with the customer and that identifies the best service specialist available to service the customer. The service specialists may be living beings or may be interactive databases with artificial intelligence or may be both living beings and artificial

20 intelligence. The service specialists may be located within a single geographical location or may be dispersed. The guide may be a living being or may be an electronic interactive guide.

The method also includes providing a network wherein the consumer and one or more of the plurality of specialists interact. The consumer is guided to

25 one or more of the specialists best able to provide service to the consumer, through the network, based upon communication between the consumer and the guide and communication between the guide and the specialists. The guide uses information obtained in the communication to select the best specialist. The network permits multiple consumers to interact with one or more guides

30 concurrently.

As used herein, "service specialists" refer to living beings having a particular expertise or having information that consumers require. The term "service specialists" also refers to electronic databases and to any artificial

intelligence used to access and to pattern information derived from the databases and to transmit this information to the consumer.

- As used herein, the term "guide" refers to a living being or to a mechanism located at a particular service provider location. The guide interfaces 5 with the customer and guides the customer through the network to identify and interact with the best available service provider. Specifically, one guide embodiment comprises a mechanism for receiving requests from the consumer and for responding to requests based upon semantics communicated by the consumer. The semantics are received and are interpreted by the guide 10 mechanism. The guide mechanism then searches for and identifies the optimal service specialist to support the customer.

In one embodiment, a "guide" includes an interactive electronic entity, that comprises a kiosk with a video and audio display loaded with a guide software that is located at a particular service provider location. The electronic 15 entity interfaces with the customer and uses the information obtained to guide the customer to the best available service provider on the network. With this guide mechanism, the guide interacts with one customer at a time.

In another embodiment, a "guide" includes interactive electronic screens accessible to a customer with a modem, a computer, and optionally, a video 20 camera and audio receiver. The interactive screens guide the customer to the best available service provider on a network. With this embodiment, the actual guide may be located remote from any of the customers and may concurrently direct multiple customers at one or more sites.

The term "network" as used herein, refers, in one embodiment, to a system for providing a service utilizing video conferencing between a consumer 25 and a service provider at a location remote from the consumer. The system comprises a plurality of consumer access stations. In one embodiment, each access station comprises a video camera or other image generating device, where appropriate, and a video screen or other image receiving device, by which a 30 consumer can access a guide mechanism and request a video conversation with the service provider. With this embodiment, the guide mechanism may interact with a call distributor mechanism in order to determine availability of a particular service provider.

For an electronic service provider such as a web site or a database, a video conversation may not be necessary. Conversation may occur with written prompts and questions originating with the electronic service provider. Thus, video and audio conferencing equipment may not be necessary.

- 5 The guide mechanism comprises software and data that comprises information regarding the types of transactions and expertise and services provided by each specialist. The software uses information regarding expertise of the service provider to select the most appropriate provider for a consumer's needs. In one embodiment, the service provider has an option of accepting or 10 refusing the consumer's call.

- One group of service providers, bankers, presently spend about 50% of a workday waiting for customers and 2% of a workday producing sales. Strategies such as networking, video-enabling branch sales and service staff and implementing skills-based routing and measured-productivity tools improve 15 banker productivity. Customer contact time is increased, thereby reducing non-revenue potential contact time, in some instances, from about 50% to 13%. In some embodiments of the present invention, about 8.9% of the day is spent producing sales versus 2.2% in current situations.

- Basic call center queuing theory dictates that 10 people in 10 20 unconnected call centers process the same number of calls as 65 people in a networked or central call center. It is believed that a networking system of the present invention enables a further 35% reduction in staff.

- In one embodiment of the method of the present invention, multiple Internet service stations, such as banking stations, are located in each bank 25 branch office. A bank concierge greets customers, identifies needs, and offers to teach customers self-service, Internet banking featuring a live support option. The concierge introduces customers to the technology and makes them aware of an option to try Internet banking to review an account, apply for a loan, or inquire about other products or services.

- 30 Each Internet station includes a videoconferencing capacity. Platform bankers, which may be located at a site remote from the branch office, answer Internet station video calls using desktop videoconferencing personal computers. While a live concierge is described, it is understood that the guide may comprise

a computer with a series of screens having questions and prompts for directing the customer to the desired product or service.

While banking is described, it is understood that the method of the present invention may be applied to other service industries such as in-store and catalog retailing, insurance, financial advisors, real estate-based services, consulting services and health care industries.

The method of the present invention promotes customer self-sufficiency by enabling customer browsing of web sites such as bank web sites, or shelf level web sites in a retail store, or health care sites or consulting sites to gather information or to perform various transactions previously requiring staff assistance. The method also promotes greater efficiency for the bank by providing face-to-face videoconferencing to customers requesting it with an available service provider, who may not be physically present within the bank.

The consumer does not have to leave the station and stand in line for live help. Instead, the consumer, browsing the bank's Internet site for information and discovering the specific transaction desired, can click onto a video call button on a given bank web page. This enables the consumer to instantly videoconference with a service specialist for help in completing a transaction. Mechanisms such as a web- based guide mechanism and/or call management software automatically switches the video call, based upon the type of request and the skill profile required of the proper bank service specialist.

For a consulting service, a network of consultants skilled in areas such as engineering, science, law, medicine and management around the world are accessed as needed. The consumer accesses a web site of the consulting service. Through a series of questions and prompts received at the web site, the consumer provides information which is received by the guide directed to the type of consultant desired. For instance, if the consumer requires information on nuclear power plant construction in New Zealand, the guide identifies specialists with nuclear power plant construction expertise. The guide may also search for specialists familiar with utility laws and nuclear energy laws in New Zealand. The guide may search for engineering, managerial and legal specialists as indicated by other information provided by the consumer. The guide also searches for specialists that are available at a time when the consumer desires to

speak with them. The guide also searches for specialists who speak the language or languages understood by the customer.

- For the banking industry, the profitability of each customer can be identified as the customer logs on to the network. For the insurance industry, a 5 customer's history of making claims and premium payment can be accessed. For health maintenance organizations, a patient's medical history can be accessed . In particular, the customer or client inserts an ATM card or key and/or a PIN number when using the Internet station. This identification process enables an identify and align process wherein the consumer is identified and 10 categorized by the guide.

A bank's or insurance company's or health maintenance organization's or retailer's web page may act as a guide and may be populated with video call buttons, based upon customer profitability and probability of cross sales, creating instantaneous live face- to- face support. The specialists in the bank, insurance 15 company, consulting, retail or health maintenance organization are connected to the network by intelligent call routing, i.e. skills based routing, to provide the customer with collaborative video sales and service regardless of their location or that of the customer. Depending upon the customer's profitability or medical history profile, the screens the customer sees may or may not display the video 20 call buttons that enable immediate access to live support from the appropriate expert.

When used in the banking industry, it is believed that the productivity gain per banker may be 33 percent. Bank revenues may be increased by recapturing lost contacts. Downtime as measured by potential contact time may 25 be reduced from 50 percent to 13.1 percent. Customer overflow is substantially eliminated.

In order to focus time on the customers that are profitable or potentially profitable to the bank, the bank's profitability analysis software identifies those customers who qualify for immediate live support. This qualification step 30 provides the bank with a capability to sell products and services to the potentially high value customers. Insurance companies and health maintenance organizations may also have qualification software directed to categorizing and prioritizing claims and symptom presentment, respectively. Retailers may have

qualification software directed to categorizing product requests with customer profiles.

One embodiment of the present invention further includes software and hardware that permit service specialists to maintain their own files as well as to provide access to enterprise files, core banking systems and so on. Using the bank's communication networks, the personal computers have a potential to become each branch person's communications system that enables real time audio and video.

The desktop visual collaboration capability has a profound effect on how service specialists do their jobs. Visual collaboration software applications create the ability of a remote bank product expert to visually collaborate and share documents in order to complete a sale with a customer using an Internet station in any branch. These video enabled specialists can serve web enabled customers at home or at work communicating via voice over IP or video over IP connections using telephone or cable company high speed Internet services.

The method of the present invention may be used to monitor productivity of service specialists. In order to access the network, service specialists log onto the network each work day and may be monitored throughout the day. The service specialists may provide service both on-line and to customers meeting them in person.

It is to be appreciated that the method and system of the present invention have been described in particular detail with respect to preferred processes and structures. The present invention, however, is not intended to be limited to these preferred embodiments. One skilled in the art will readily recognize that the actual method and system may be adjusted to accommodate particular conditions.

IN THE CLAIMS

What is claimed is:

1. A method for a service provider to improve service to a customer comprising:
 - providing a plurality of service specialists;
 - providing a guide that communicates interactively with the customer;
 - providing a network wherein the customer and one or more of the plurality of specialists interact; and
 - guiding the customer to one or more of the specialists through the network based upon information communicated between the customer and the guide.
2. The method of claim 1 wherein the service specialists are located at sites remote from each other.
3. The method of claim 1 wherein the customer is located at a site remote from one or more of the service specialists.
4. The method of claim 1 wherein the guide and customer are located at the same site.
5. The method of claim 1 wherein the guide is located at a site remote from the customer.
6. The method of claim 1 wherein the network permits interaction among the plurality of specialists.
7. The method of claim 1 wherein the network is an electronic network.
8. The method of claim 1 wherein the service is a financial service.

9. The method of claim 1 wherein the service is an insurance service.
10. The method of claim 1 wherein the service is a medical service.
11. The method of claim 1 wherein the service is a legal service.
12. The method of claim 1 wherein the service is a retail service.
13. The method of claim 1 wherein the customer preselects the specialist.
14. The method of claim 1 and further comprising monitoring activity of the service provider.
15. A method for rapidly providing customer access to a service specialist, comprising:
 - providing a plurality of service specialists;
 - providing a network wherein the customer and one or more of the plurality of the specialists interact;
 - communicating a consumer's need to a guide;
 - identifying the specialist or specialists which can address the need; and
 - guiding the customer to the specialist through the guide.
16. The method of claim 15 wherein the guide communicates interactively with a customer.
17. The method of claim 15 and further comprising monitoring activities of the specialist.
18. A method for rapidly providing customer access to a banking specialist, comprising:
 - providing a plurality of banking specialists;
 - providing a network wherein the customer and one or more of the plurality of specialists interact;

communicating a customer's need to a guide;
identifying the specialist which can best address the need based upon
information received in the communication; and
guiding the customer to the specialist through the guide.

19. A method for an insurance provider to improve service to a customer, comprising:

providing a plurality of insurance specialists;
providing a guide that communicates interactively with the customer;
providing a network wherein the customer and one or more of the
plurality of insurance interact; and
guiding the customer to one or more of the insurance specialists through
the network based upon information communicated between the
customer and the guide.

20. A method for a plurality of consultants to improve service to a customer, comprising:

providing a plurality of consultants;
providing a guide that communicates interactively with the customer;
providing a network wherein the customer and one or more of the
plurality of consultants interact; and
guiding the customer to one or more of the consultants through the
network based upon information communicated between the
customer and the guide.

21. A method for monitoring activities of a service specialist, comprising:

providing an electronic network;
tying activities of and access to the service specialist to the electronic
network;
adding information about the service specialist to a database accessible
by a guide; and
monitoring availability of service specialist.

22. The method of claim 21 and further comprising monitoring contacts between the service specialist and a customer.
23. A method for a retailer to improve service to a customer, comprising:
 - providing a plurality of retail service providers;
 - providing a guide that communicates interactively with the customer;
 - providing a network wherein the customer and one or more of the plurality of retail service providers interact; and
 - guiding the customer to one or more of the retail service providers through the network based upon information communicated between the customer and the guide.
24. The method of claim 23 and further comprising monitoring contacts between the service specialist and a customer.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G06F 17/60
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/1, 35, 39, 42

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST 2.0, CAS ONLINE, DIALOG

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,710,889 A (CLARK et al) 20 January 1998, see entire document.	1-24
A	US 5,920,621 A (GOTTLIEB) 06 July 1999, see entire document.	1-24
A	RADDING ALAN. Technology packs punch into bank telemarketing, Bank Management. June 1991. V67, No. 6. See entire document.	1-24

Further documents are listed in the continuation of Box C. See patent family annex.

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A	document defining the general state of the art which is not considered to be of particular relevance	
E	earlier document published on or after the international filing date	*X*
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O	document referring to an oral disclosure, use, exhibition or other means	*Y*
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